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FROM THE AUTHOR.

CLIMATE AND MALARIA.

A PAPER

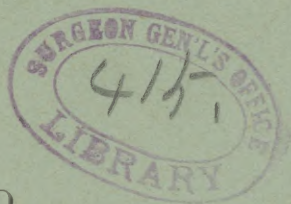
READ BEFORE THE SECTION OF "MEDICAL CLIMATOLOGY AND DEMOGRAPHY" OF THE NINTH INTERNATIONAL MEDICAL CONGRESS,
HELD IN WASHINGTON, D. C., SEPTEMBER, 1887,

BY

JOSEPH PARRISH, M.D.,

OF BURLINGTON, N. J.

Permanent Member of American Medical Association; Late President, Fellow and Honorary Member of the Medical Society of New Jersey; President of the American Association for the Cure of Inebriates; Associate Member of the Society for the Study of Inebriety of Great Britain; Vice-President of International and Colonial Congress on Inebriety, London, Sept., 1887; Associate Member of Medico-Legal Society of New York; Fellow of the College of Physicians of Philadelphia (N.-R.); etc., etc.



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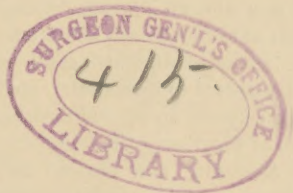
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D. C., SEPTEMBER, 1887. DR. ALBERT L. GIHON, U. S. N.,
CHAIRMAN OF SECTION.



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CLIMATE AND MALARIA.

CLIMAT ET FIÈVRE PALUDÉENNE.

ÜBER KLIMA UND MALARIA.

BY JOSEPH PARRISH, M.D.,

Of Burlington, New Jersey.

The use of the word malaria, as a *cause* of disease, and, indeed, sometimes as a *disease*, is so common, and yet so inexpressive of the meaning intended to be conveyed by it, that I am prompted to suggest for your consideration certain inquiries, and offer statements, the tendency of which is to surround the dogma of the paludal origin of intermittent autumnal fevers with grave doubts as to its verity.

The word is commonly employed, as you know, in connection with the disorders that occur in the autumn, which assume the type of intermittence, and are usually called *ague*, or *chills* and *fever*. In addition to this limited application of the word, it is nowadays fashionable with the profession, to use it to designate complicated forms of intermittent disease, as malarial gout, malarial rheumatism, malarial neuralgia, etc. And, as we shall presently see, there is frequently a unity of cause, or it may be a vicarious transference of symptoms from one to another.

In answer to the question: What is malaria? one practitioner, or author, informs us that it is a poisonous vapor which is exhaled from decaying vegetable matter. Another calls it a specific spore, or microbe, that is peculiar to swamps or marshy lands, and which, under certain degrees of heat, is set free, and poisons the atmosphere. Another prefers to define it as an impalpable virus, which cannot yet be accurately described, but continues to occupy the realm of mystery, and must so remain until some future microscopist, or yet unborn chemist, shall succeed in eliminating the toxic element, whatever it may prove to be, and expose it for inspection and credence.

These malarial disorders are prevalent in hot climates, or in that season of the year, in any climate, when the change of temperature from hot to cold is the most decided both as to suddenness and intensity. Some observers amuse themselves by describing isothermal zones, which correspond in their boundaries with geographical districts that are supposed to be malarial, and thus imagine that they have discovered a correspondence between marsh and disease which they take to be final and conclusive in confirmation of the theory that marsh poison is the chief factor of periodical fevers.

Assuming now that we may look elsewhere for the source of intermittents than among swamps, marshy meadows and the muddy shores of creeks and rivers, the following inquiry seems to be in place:—

“If it can be shown that the characteristic chill, fever and sweat prevail in mountainous, rocky and arid places, may not the marsh theory be excluded even from localities where marsh is the prevailing type.”* This is a pertinent inquiry. It opens the way to a very wide field, which may be explored with profit by the careful and patient student. He will not be long in discovering that the focus of the (so-called) malaria is located in the tropics, and that its career is as erratic and uncertain as are its various definitions and descriptions. It will also be found that there are other diseases complicated with what we recognize as malarial fevers which may occur at the same time, in the same locality and not infrequently in the same person.

* *Transactions of New Jersey Medical Society for 1886. Presidential address, by the Author, p. 39.*

Mr. Haspel observes the frequent association of intermittent fever with dysentery and affections of the liver. "The transformation of these three morbid states, one into the other, and their alternate succession—are these not proofs that they depend upon the same cause? One cannot refuse to recognize between these maladies, so unlike in appearance, a very great affinity—points of contact, intimate and numerous—and, in short, a family connection."*

"Bronchitis is a common accompaniment of remittent fevers in India, and in the hospital at Bombay pneumonia is the most usual of all the inflammatory complications in asthenic subjects."† Of the fevers which occurred during the American war, Robert Jackson observes as follows: "Indeed, the intermittent, the dysentery, and even the dropsical swellings, so alternated with one another as evidently showed that they all depend upon the same general cause."‡ Blane says of fever and dysentery—"The two diseases may be considered vicarious."§ Dr. Oldham, author of "What is Malaria?" from whose valuable book these extracts are taken, says, that "Malarious fevers, dysentery and hepatitis may appear at the same time and under the same circumstances of exposure, and that any two of them may appear at once in the same individual." A. K. Johnson declares that "the circumstance of intermittent passing into remittent, and remittent into malarious yellow fever, often terminating in intermittent—facts observed not only in the East and West Indies, but on the continent of America and of Africa, demonstrate a unity of cause as firmly as the best established facts in medicine."||

Admitting this identity of cause, is it not logical and consistent to accept as true an identity of type? If the fever is due to an organic poison, why may not the pleurisy, bronchitis, and other diseases be attributed to the same cause? Reversing the question, if these disorders are due to cold—to chill, which is the common belief, why not assume that they are caused by miasmatic poison, and not by chill?

So much concerning causation.

We now approach a most interesting feature of intermittents, namely, their periodicity. A common opinion seems to prevail within the profession that this periodicity is in consequence of a peculiar element or quality of the poison, imparting to the constitution an impression which becomes permanent, and giving to other diseases which may appear from time to time in the same individual the same intermittent feature; but it seems to me that this view is singularly hypothetical, and is used without any warrant drawn from nature or experience. It is certain that the human constitution is subject to the law of periodicity in very many of its evolutions. From the dentition of infancy, through all the changes of puberty, manhood, and the decline of functional activity in advanced life, there are periods, well marked as to time and condition, which display the growth and development of the race with a regularity and certainty that may be considered characteristic. And if such law governs the normal state, why may it not respond to morbid impressions and become as rhythmical as any other vital movement.

Salter says that "There are three kinds of periodicity in disease. One in which it is produced by the periodical return of its cause, as the recurrence of hay fever every summer, the morning expectation after a night's rest, indigestion every day at a certain hour after dinner. Another, in which the periodicity seems to depend upon that rhythmical impress which is stamped on the functions; that sort of diurnal oscillation in which the body is swung by the constant recurrence of one unvarying daily interval of the habitual actions and passions of the body." He thinks that "ague acquires its periodicity from the diurnal heat into which the body falls."

But there is no remission of activity as in the Inter-mittent

* Oldham's "What is Malaria?" p. 183.

† "Diseases in India," v. 73, taken from Oldham's "What is Malaria?" p. 183. Dr. Morehead.

‡ "On Fevers," p. 303.

§ "Diseases of Seamen," p. 449.

|| See Aitken, Vol. II, p. 1048.

C. H. Jones says, "It seems to me that periodicity has *no relation to the cause of the disorder*. Malarious disorders are very commonly periodic, but are also very often not; and other painful maladies which have nothing to do with malaria, but depend on organic lesion, are sometimes typically periodic."

Other forms of disease occur in place of chills at regular periods, notably asthma, neuralgia, etc. Salter calls attention to the periodicity of asthma. He says: "It is one of the few diseases that can be strictly pronounced periodic. It is not merely paroxysmal, it is periodic; the paroxysms occur at regular and definite periods. In others, however, the regularity is more curious; as the period characteristic of the particular case recurs, the attack is predicted with the greatest certainty, and never fails to appear at the right time—never misses, never anticipates, never postpones." Spitzka describes a periodical insanity and epilepsy. Folsom and Mann do likewise. Migraine is another affection which takes on the periodic type. Dr. Wharton Sinkler has seen a number of cases where attacks occurred on Sunday and at no other time.

As to treatment, but little need be said. Quinine and arsenic are the principal drugs that are used; and by a curious coincidence, quinine seems to be equally efficient in curing the paroxysms, whether used by the advocates of marsh poison to antidote the poison, or by the advocates of cold or chill as the cause, to give tone and resisting energy to the nervous system. Both sides have an equal claim to the drug as a final cure of the intermittent seizure. Of course there are other remedies which are employed, as the practitioner may determine.

One feature in the treatment may be referred to as sometimes equally efficient in its use, but without any pretension to legitimate medicine. I refer to charms, amulets, incantations, prayers, and such shocks as are produced by fright, grief, or any similar impression. These have all been used with good effect upon a certain class of patients, but they certainly have no antiseptic or antidotal properties, acting, as they do, psychologically, and making no pretension to legitimate medicine.

To conclude the subject in a few words, the following may be summarized:—

1. It is admitted that the cause of the diseases that are complications with malarious fevers is exposure to cold.
2. That by the rapid evaporation from the body, which means the withdrawal of animal heat, all the symptoms which are said to be due to local emanations from the soil may be produced, without the presence of a specific poison.
3. There seems to be no locality called malarious, where fever may not occur from cold or chill, the very conditions being present which are productive of chill.
4. Inasmuch as excessive heat depresses vital energy and predisposes to chill, it is important to protect the body from sudden change of temperature to a lower degree, and thus avoid chill.

These thoughts and conclusions seem especially in place at this time, from the fact that the tendency of the profession is to overlook conditions and causes of disease that are near at hand, and patent to the senses, and to penetrate the domain of the unknown, seeking for influences in the microscopic world to discover invisible and impalpable essences, of whose existence nothing is known. While I would not discourage scientific investigations to the remotest realm of observation for the advancement of science, and the benefit of mankind, I would not overlook what is at hand, nor be carried away by a germicidal wave that is just now sweeping through college halls and private offices of the profession, lest it may be said, as Dr. Dewy has put it—

"Hepatic doctors now are seen no more,
The hunt for bile has long been given o'er,
Whoever would a reputation make,
Deserts the bile—the bugs to overtake."

